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ABSTRACT

Fairleigh Dickinson University developed a University Core Curriculum which it initiated in the 1987-1988 academic year (the pilot program was operational in the fall 1986 semester). The University Core is composed of four 3-credit liberal education courses: "Perspectives on the Individual," which deals with works ranging from Plato's "Crito" to Malcolm X's autobiography; "The American Experience: The Quest for Freedom," which explores ideas from de Tocqueville to recent Supreme Court decisions; "Cross Cultural Perspectives" which examines the cultures of Nigeria, Mexico, India, and China; and "Global Issues," which focuses on the role of science and technology as unifying forces. In conjunction with the university's Success Adult Degree Program, the "Perspectives on the Individual" course was offered as a homogeneous section for the nontraditional adult learner. In order to assess student interest in the course format, content, achievement, and utilization of experiential learning as compared to other sections of the course offered simultaneously where the population was heterogeneous by age, an investigator-made survey was distributed to all evening sections of the course. Final course grades, scores on midterms and final examinations, papers, class participation, and journal grades were analyzed for differences by course sections. The findings revealed no significant difference between heterogeneous and homogeneous-by-age groups. (Author/NB)

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The Assessment of a Homogeneous Interdisciplinary University Core Course for the Mature Adult Learner

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ASSESSMENT: INTERDISCIPLINARY CORE COURSE

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Abstract

The challenge of education extends beyond the mere preparation for employment to include the ability to appreciate the arts and culture of our society. Fairleigh Dickinson University developed a University Core curriculum which it instituted in the 1987-1988 academic year (the Pilot program was operational in the Fall 1986 semester). The University Core is composed of four, three-credit liberal education courses including "Perspectives on the Individual", which deals with works ranging from Plato's Crito to Malcolm X's autobiography; "The American Experience: The Quest for Freedom", which explores ideas from de Tocqueville to recent Supreme Court decisions; "Cross Cultural Perspectives" which examines the cultures of Nigeria, Mexico, India and China; and "Global Issues", which focuses on the role of science and technology as unifying forces.

Effective Fall 1986, all students, regardless of major must complete this course sequence (exemptions and/or waivers exist for Transfer students according to the number of credits in transfer).

In conjunction with FDU's Success Adult Degree Program, the initial course in the series, "Perspectives on the Individual", was offered as a homogeneous section for the non-traditional adult learner in the Spring 1988 semester at one of the three main campuses. It was the authors' attempt to assess the student's interest in the course format, course content, course achievement and utilization of experiential learning as compared to other sections of this course offered simultaneously where the population is heterogeneous by age. An investigator-made survey was distributed to all evening sections of this course to collect qualitative data, i.e. the

student's satisfaction with the course composition. Final course grades, scores on midterm and final examinations, papers, class participation and journal grades were analyzed for differences by course sections.

THE ASSESSMENT OF A HOMOGENEOUS INTERDISCIPLINARY UNIVERSITY CORE COURSE FOR THE MATURE ADULT LEARNER

Adult Degree Program and the University Core

In the Fall of 1985, FDU established "Success", a tricampus adult degree program for students twenty-five years of age and older who wished to pursue majors in the Colleges of Liberal Arts and Arts and Sciences undifferentiated from the traditional avenue (with the exception of Allied Health/Nursing degrees). Effective Fall 1988, Success students may also pursue all majors in the College of Business Administration and the B.S.in Biology in the College of Science and Engineering. The Success students, however, have several key benefits:

- they may receive up to a maximum of thirty credits for prior learning where knowledge/skills is (are) equivalent to college-level learning.
- they are in regular contact with a Success Campus Coordinator who serves as an advisor throughout their entire program (in addition to their "major" advisor, once the student selects a "major").
- they may register for "selected course sections" at their option where the course composition is segregated by age, specifically designed for adult learners. At least two courses are offered each Fall and Spring semester at each of the three main campuses. Course content is exactly the same as other sections of this same course where the age group is heterogeneous.

The selected course section was the focus of this project in conjunction with one of the University Core courses. The University Core program was instituted in the Fall of 1986 as a pilot on the recommendation of a University Planning Committee, and as a programmatic requirement in Spring 1987

with the first University Core course, Perspectives on the Individual. The University Core is a four-course sequence for a total of twelve credits. Its object is to provide a common base of knowledge for all undergraduate students regardless of college or major. All undergraduate students in the University are required to participate. Depending upon the number of credits a student held as of Spring 1987, a sliding scale was developed to establish the individual student's responsibility in fulfilling his/her core requirement. Even transfer students will fulfill a minimum of three credits.

Pilot Study

In this study, the investigators decided to utilize the first University Core course, Perspectives on the Individual. It was hypothesized that the homogeneous adult learner class sections (as exist in the Success selected class sections) would find the "selected" University Core course more conducive to learning course material, more helpful to the grasp of course content and more able to draw from life experiences to integrate new course information. A test of this hypothesis was expected to produce significantly higher scores for the homogeneous section of adult learners on all measures of achievement including exams, papers and final course grades vs. the heterogeneous-by-age class sections.

Research Methodology

This exploratory examination entailed collection of data using an investigator-designed survey and a variety of student achievement measures including midterm exam grades, final exam grades, "paper" grades (on two papers), course participation/journal grades and final course grades. All course content, readings and final examinations are standardized for the course. There was no control of teaching/learning styles or individual personality styles of either faculty or students.

Sample Selection

Study participants included students registered in all three evening sections of UC101 Perspectives on the Individual during the Spring 1988 semester at one of the three main campuses. Two sections were heterogeneous-by-age, one was homogeneous-by-age. Table 1 shows the demographic profile of the sample.

Insert Table 1 about here

Variables

The dependent variable observed in this study was student achievement as measured by the various exams, papers, journals, class participation scores and final course grades. The independent variables were the homogeneous and heterogeneous class compositions. By utilizing a standardized curriculum as outlined in all University Core courses the invesigators were able to control course content including reading assignments, final exams, scheduling, class composition by age, class size, and class environment. However, it is recognized that the personality characteristics/match and teaching style of the faculty were not controlled, nor was the personality characteristics/match and learning style of the students controlled. It is likely that the match or mismatch of personality characteristics of faculty and students (Hart, 1984) or the match or mismatch of teaching/learning styles (Kolb, 1984) could have affected achievement.

Instrumentation

The researchers designed a brief survey to collect demographic data and student perceptions regarding the influence of a homogeneous vs. heterogeneous class composition on their ability to learn course material and their ability to draw from life/work experiences in

understanding course content. In addition, the faculty in each course section submitted midterm and final exam grades; first and second paper grades; journal/class participation grades; and final course grades.

Data Collection Procedure

During the Spring 1988 semester, the three faculty distributed the investigator-made surveys during some part of a regularly-scheduled class which they then returned to the investigators. At midterm, the faculty submitted both midterm exam grades and first paper grades. At course completion, the faculty submitted final exam grades, journal/class participation grades and final course grades.

Data Analysis

Data were analyzed initially by descriptive techniques. Frequency distributions displayed the profile of the sample including breakdown by age, gender, full-time/part-time study, employment, course requirement and participation in the "Success" Adult Degree Program. Further analysis included information collected from the six measures of achievement and the survey instrument.

The survey information was analyzed utilizing Chi-square. The nominal data included:

- age
- gender
- full-time/part-time study
- member/non-member, "Success" Adult Degree Program
- employment: part-time, full-time, not employed
- course requirement: Required/Elective
- class composition conducive to learning
- course composition helpful with course content
- ability to draw from life experiences

A one-way ANOVA was also used in the analysis of age distribution between groups.

The measures of achievement in this study were:

- midterm exam
- final exam
- first written paper
- second written paper
- journal/class participation grade
- final course grades

Each of these measures was subjected to a t-test analysis to examine the significant differences between homogeneous (age-segregated) and heterogeneous (age-undifferentiated) groups. Likewise, an analysis of variance was conducted to examine any significant difference in the three separate classes. A Duncan Multiple Range test was utilized to estimate the significant difference between the three groups where appropriate.

Findings

Survey

The statistical assessment of the response rate, gender, requirement of the course, class composition re: learning and course content and ability to draw from life experiences were not significant. There was no significant difference between heterogeneous and homogeneous-by-age groups. "Employment" did significantly differ at the .0005 level where more adult learners were employed full-time vs. the heterogeneous groups which displayed more part-time employment. Likewise, full and part-time study was significant at the .0005 level where adult learners were more often part-time students. Since the Success Program was specifically designed for adult learners, it was expected that a statistically significant difference in this membership category would be found ($p < .0005$). See Table 2. The one-way ANOVA of age distribution also showed a statistically significant difference between all classes ($p < .001$) as did the t-test analysis ($p < .001$) between heterogeneous and homogeneous-by-age groups (Table 3).

Insert Tables 2 & 3 about here

Measures of Achievement

The statistical analysis of midterm exam, final exam, second paper and final course grade were not significant on either the analysis of variance between the three groups or the t-test analysis between heterogeneous and homogeneous-by-age groups. There was a significant difference on the first paper (ANOVA, $p < 0.05$; t-test, $p < 0.05$) both in a comparison between each of the three groups and between heterogeneous and homogeneous-by-age groups. The adult learners performed significantly better (Tables 4, 5 and 6). Although there was a significant difference on the journal/class participation grades ($p < .001$ for both the ANOVA and the t-tests), the analysis showed a significance in the opposite direction of that expected; adult learners performed more poorly on journal/class participation scores. The Duncan Multiple Range Test displayed a significant difference at the .05 level between all three groups (Table 5, 7 and 8).

Insert Tables 4,5,6,7, & 8 about here

Implications

For the most part, this study did not support the conclusions that the investigators had anticipated. A number of assumptions made about the performance of adult learners in a homogeneous-by-age environment were challenged by the initial results of this project:

1. The investigators had expected adults in the homogeneous by-age group to perform better on most measures of achievement, especially those requiring oral and written skills, i.e., class participation, journals, and papers. In fact, they did not.

2. This result may have been due to several factors including the inability of the investigators to control personality styles and teaching/learning styles of both faculty and students. This lack of control may have had a profound effect on the results.

3. One area where the result did turn out as expected was that of performance on formal examinations. In this case, however, the expectation was that adult learners would not perform significantly better than students in a heterogeneous by-age group. Adult learners who are returning to the formal environment of academe after a number of years outside that environment often become anxious when taking examinations. At any rate, their performance was not significantly better on these written exams than those of the students in the heterogenous-by-age group confirming the investigators initial expectations.

4. Although adhering to the guidelines for grading established by the University, each instructor interprets a student's work from his or her own perspective. Therefore, judging performance by grades alone is most likely insufficient. Again, personality and teaching/learning styles need to be examined.

5. The researchers suggest that future investigations also include measurement and match of personality styles and teaching/learning styles. If under these controls the results are the same as they have been in this first study, some major assumptions about the nature of adult learners and their performance in homogeneous-by-age groups will have to be re-examined.

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Table 1
Demographic Profile of the Sample

	Class Sections			
	Homogeneous-by-age		Heterogeneous-by-age	
	N	(%)	N	(%)
Response Rate	21	84.00	39	76.47
Age	21		39	
Mean		33		21
Median		34		26
Range		28		30
Gender				
Male	11	52.00	22	56.41
Female	10	48.00	17	43.59
	21	100.00	39	100.00
Student Schedule				
% Full-time	2	9.50	31	79.49
% Part-time	19	90.50	8	20.51
	21	100.00	39	100.00
Success Program				
Yes	19	90.50	0	0.00
No	2	9.50	39	100.00
	21	100.00	39	100.00
Employed				
Full-time	20	95.20	9	23.08
Part-time	1	4.80	19	48.72
Not employed	0	0.00	11	28.21
	21	100.00	39	100.01
Course taken as				
Requirement	17	81.00	39	100.00
Elective	4	19.00	0	0.00
	21	100.00	39	100.00

Table 2

Employment Pattern, Student Schedule, and Success Program Membership: A Comparison of Homogeneous and Heterogeneous-by-Age Groups

	Homogeneous-by-age group	Heterogeneous-by-age group
Employment Pattern		
Full-time	20	9
Part-time	1	19
Not Employed	0	11
Chi Square = 28.5411*		
Student Schedule		
Full-time	2	31
Part-time	19	8
Chi Square = 24.2432*		
Success Program Membership		
Yes	19	0
No	2	39
Chi Square = 47.5411*		

* $p < 0.0005$.

Table 3

Age Distribution: A Comparison of Homogeneous and Heterogeneous-by-Age Groups

ANOVA				
Source	DF	SS	MS	F
Between	2	1986.1	993.066	21.4374*
Within	57	2640.5	46.324	
Total	59	4626.6		

t-test				
	N	Mean	SD	t
Homogeneous	21	33.05	8.29	
				6.47*
Heterogeneous	39	21.13	5.88	

*$p < 0.001$.

Table 4

Measures of Achievement: A Comparison of Homogeneous and Heterogeneous-by-Age Groups, ANOVA: First Paper Scores

		First Paper		
Source	DF	SS	MS	F
Between	2	1606.780	303.390	3.622*
Within	71	15750.090	221.832	
Total	73	17356.869		

* $p < 0.05$.

Table 5

Measures of Achievement: A Comparison of Homogeneous and Heterogeneous-by-Age Groups, T-test

	Heterogeneous			Homogeneous			
	N	MEAN	SD	N	MEAN	SD	T-value
First Paper	51	77.42	17.91	23	85.22	4.03	2.058*
Journal/Class Participation	51	78.37	12.44	25	62.12	21.58	4.163**

* $p < 0.05$. ** $p < 0.001$.

Table 6

Measures of Achievement: A comparison between Homogeneous and Heterogeneous-by-Age Groups, Duncan Multiple Range Test, First Paper Scores

Group	Mean	n
Homogeneous	85.22	23
Heterogeneous		
Group 1	73.94	26
Group 2	81.04	25

Note. The Homogeneous group's mean score was significantly different ($p < .05$) than the Heterogeneous, Group 1. The Heterogeneous Group 1 was not significantly different from Group 2 ($p < .05$).

Table 7

Measures of Achievement: A Comparison of Homogeneous and Heterogeneous-by-Age Groups, ANOVA: Journal/Class Participation

	Journal/Class Participation			
Source	DF	SS	MS	F
Between	2	5710.571	2855.286	11.822*
Within	73	17631.335	241.525	
Total	75	23341.906		

*$p < 0.001$.

Table 8

Measures of Achievement: A Comparison of Homogeneous and Heterogeneous-by-Age Groups, Duncan Multiple Range Test, Journal/Class Participation Scores

Group	Mean	n
Homogeneous	62.12	25
Heterogeneous		
Group 1	73.46	26
Group 2	83.48	25

Note. All scores were significantly different at $p < 0.05$.